



Dental Implants: Discussion

Discussion: Role of Primary Stability for Successful Osseointegration of Dental Implants: Factors of Influence and Evaluation

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The authors should be honored for such a well-written and much-needed publication.¹ In the work by Javed et al,¹ a role of different factors in achieving of a primary stability (Fig) is raised and analysed. In their paper “Role of Primary Stability for Successful Osseointegration of Dental Implants: Factors of Influence and Evaluation”, are precisely described: Pre-requisites for a fortunate primary stability, density and quality of the bone tissue, design of the implants, methods of evaluation of the primary stability, and how micromotions can effect the primary stability.¹

The partial/complete edentulous patient embodies the convergence of three extremely common, very challenging, and highly expensive conditions: lack of bone, poor quality of bone tissue, and high costs for the dental implants placement/bone augmentation procedures.²⁻⁸

So, factors affecting primary and secondary stability of the dental implants were beautifully outlined by Javed et al:¹

1. Factors influencing primary stability:

- Bone quantity.
- Bone quality.
- Surgical technique.
- Implant design.

2. Factors influencing secondary stability:

- Primary stability.
- Bone remodeling.
- Implant surface conditions.

The bone dentistry classifications (Linkow and Chercheve, 1970; Leckholm and Zarb, 1985; Misch, 1995)¹ are so clearly characterized that it simplifies for the surgeons to plan and to predict the procedures using cone-beam computed tomography with Hounsfield Units measurement.³ Carefully describing the “soft bones” Javed et al warn about the risks in achieving primary stability in case of soft jaw densities.¹ But, as pointed out by other authors,⁴ poor primary stability is not statistically significant in the loss of dental implants. Cobo-Vázquez et al made those conclusions after analysis of 2,400 implants among which ninety-two implants were placed without primary stability.⁴

In summary, authors have done a great review of a hot topic of last years, analyzed 68 peer-reviewed literary sources.¹ This made the article¹ an important source for colleagues who are interested in a brief review of challenging situations in implant surgeries, especially at posterior maxilla.

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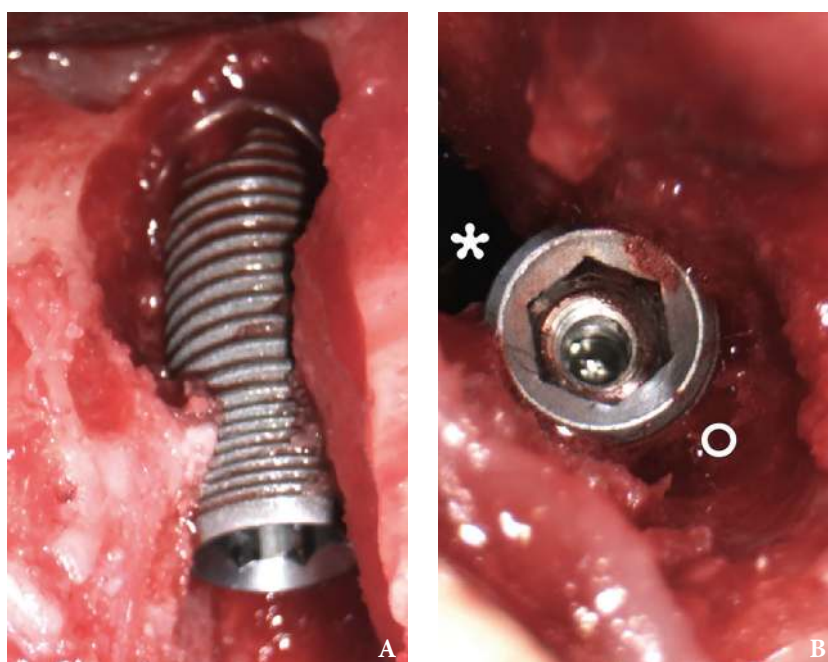


FIGURE. Case (A, B) of the author (Nagorniak IV) demonstrates an example of primary stability of implant at the maxilla (place of a tooth 1.4). Image B: Large buccal wall defect² (asterisk) and palatal bone gap (circle) were treated by bone grafting with guided bone regeneration using titanium mesh.

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